A Land Use Approach to Flood Hazard Mitigation, Waldport, Oregon

by

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ABSTRACT

The City of Waldport, Oregon, has been periodically exposed to the effects of marine flooding and erosion. Consequent to the erosion of the Alsea Bay sandspit during the fall of 1985, one Waldport residential neighborhood was faced with the imminent threat of serious marine flood inundation. This study includes a brief description of the background of the 1985-86 marine flooding and erosion threat to the city of Waldport, a discussion of the various mitigation measures and land use procedures that have been recently investigated by the City of Waldport, an exploration of some of the alternatives available to Waldport in response to the threat of marine flood inundation, and recommendations for a course of land use redevelopment for the Maple Street area. The recommendations are provided in the realization that land use planning and mitigation for areas previously developed in hazardous areas is a difficult task for a small community with only limited resources, as well as for the geographer who would try to help solve the problem.

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I. INTRODUCTION

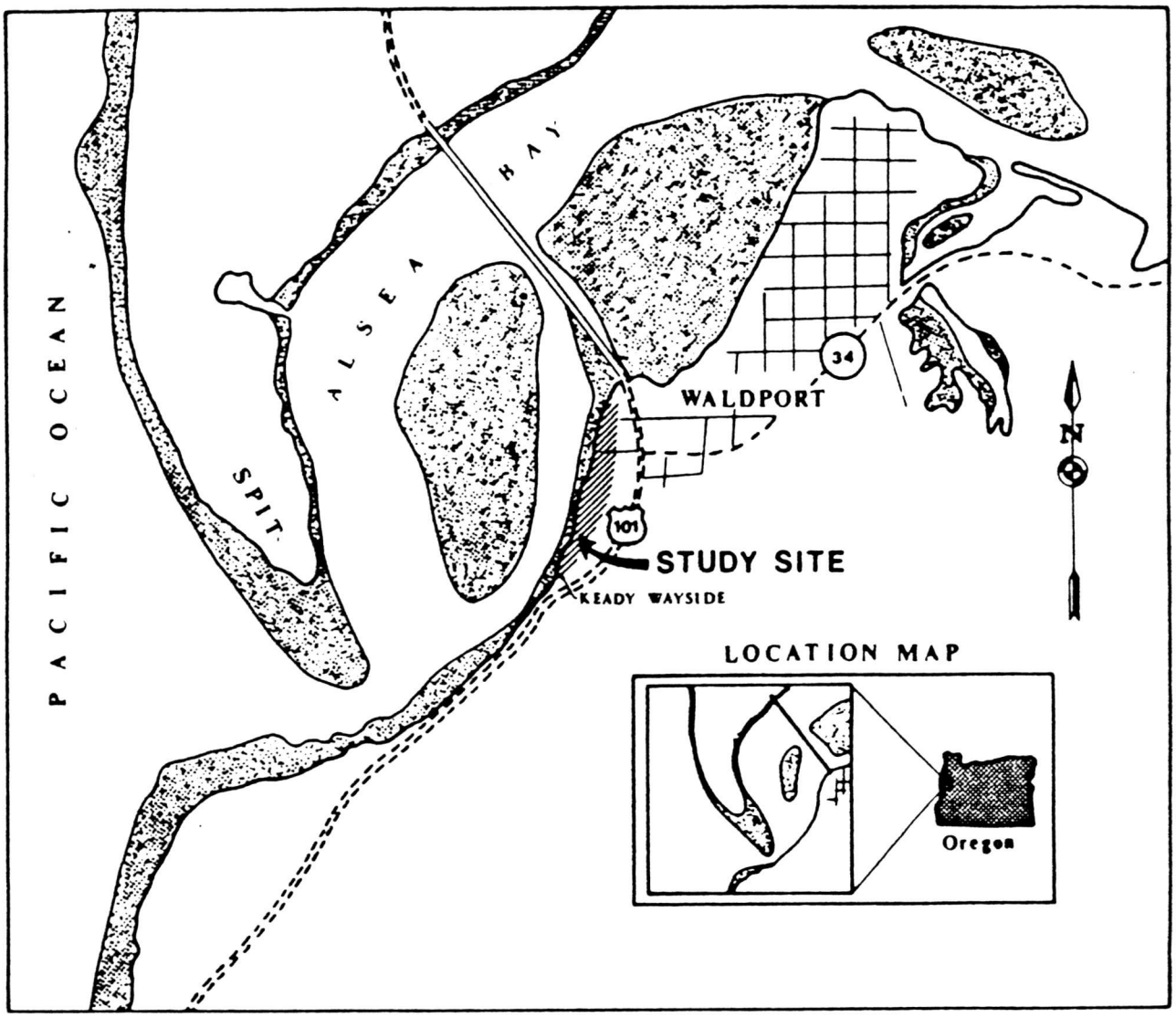
Site Description

Waldport, Oregon, with a population of 1,550 (1985), is located along the southwest shore of Alsea Bay on the central Oregon coast (see Appendix, Map 1). The town serves as a rural service center at the intersection of state Highway 34 and the federal Pacific Coast Highway 101. Waldport is also a recreation, sport fishing, and vacation-home destination with a population which reflects a large percentage of retired persons. Many people consider it a "bedroom" community for Newport, the Lincoln County seat of government which is 14 miles to the north on Highway 101.

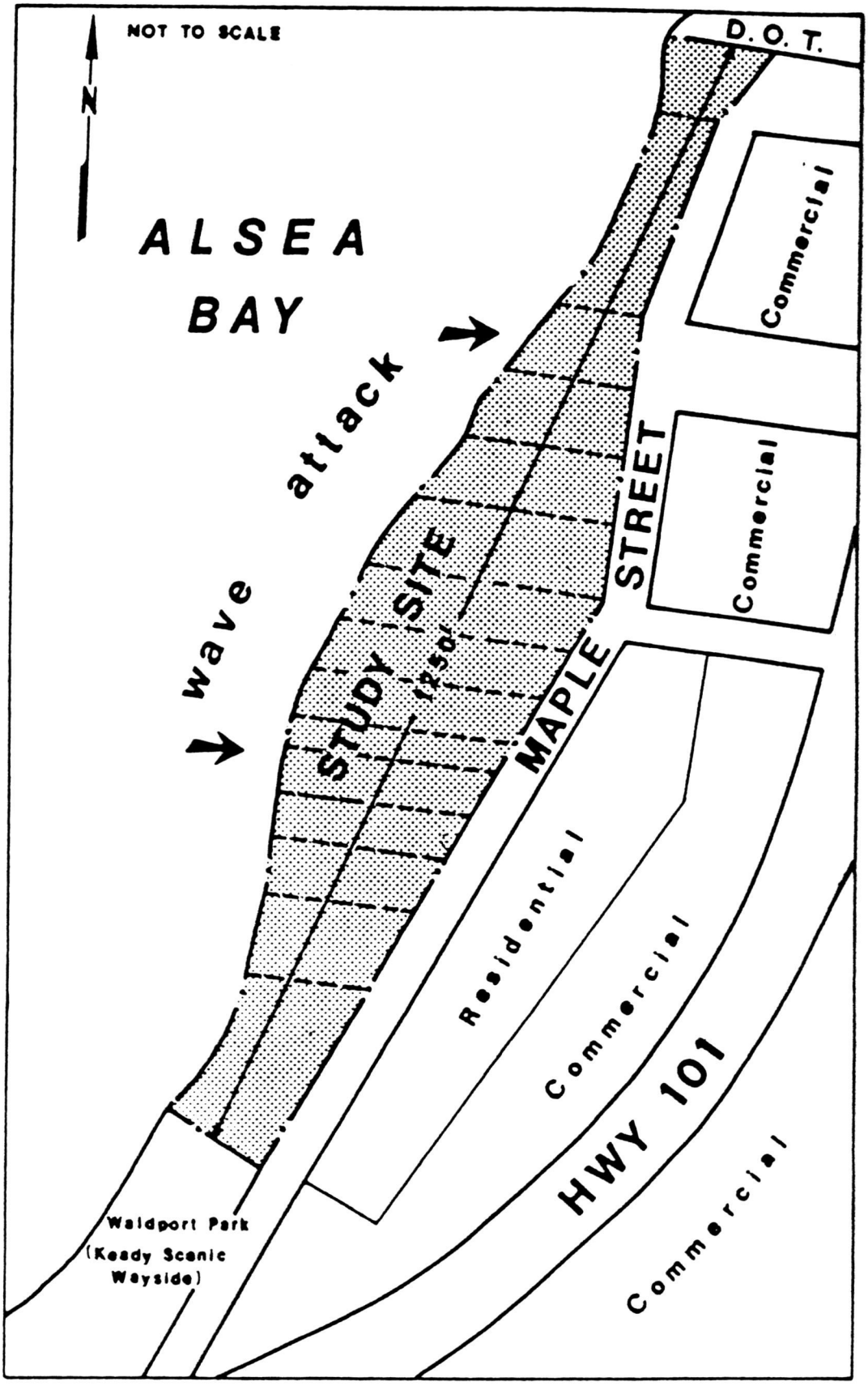
Alsea Bay is classified as an "estuary," which is defined as a body of water semi-enclosed by land, connected with the open ocean and within which salt water is usually diluted by freshwater derived from the land. An estuary includes estuarine water, tidelands, tidal marshes, submerged lands, and usually extends upstream to the tidewater head. The Oregon Division of State Lands has officially designated Alsea Bay as a "conservation estuary," rather than a natural, shallow-draft development or a deep-draft development estuary (Rohse, 1987). Conservation estuaries are defined as bodies of water lacking in maintenance jetties or channels, but which are within or adjacent to urban areas which have altered the shorelines adjacent to the estuary (OAR 660-17-015(2)).

The focus of this study is a 3.9 acre bayfront site along the western edge of Waldport's central business district, one block in distance

from Highway 101 (See Map 2). It represents the area most likely to suffer flood damage from marine storm driven winds and tidal surges. The site is bordered by Alsea Bay to the west and by Maple Street to the east. Keady Scenic Wayside (or Waldport Park) is at the south end, with Oregon Department of Transportation property (the Alsea Bay Bridge) to the north. The site is irregular in shape, extending approximately 1,250 feet along the waterfront and ranging from 35 to 225 feet in width. Much of the study site, as evidenced by a lack of soil compactness and exposed iron and timber debris at the north end, has been built out into the estuary. The current land use classification is "residential," and structures consist of both seasonal and permanent homes ranging from 10 to 60 years of age. The 15 individual parcels comprising the study area range in size from .18 ac. to .5 ac. The 1981-82 assessed valuation of the total area of the study was $746,380. The most recent property and building improvement value range (1986-87) was set at $30,000 to $60,000, with the total study site assessed in value at only $560,440 (Lincoln County Assessor, 1987). The site has been undergoing a steady decline in property valuation, as may be seen in Table 1.



Map 1. Alsea Bay and the City of Waldport.



Map 2. Maple Street Study Site.

Table 1. Maple Street Waterfront, Waldport, OR. Breakdown of Property and Improvement Values (Source: Lincoln Country Assessor, 1987).

Parcel	Land Value	Improv. Value	86/87 Total	81/82 Total
1100	$15,130	$14,040	$29,170	$41,120
1200	63,010	13,070	76,180	------
4800	6,540	------	6,540	18,690
4900	15,250	16,150	31,400	58,600
5100	23,190	21,930	45,120	63,720
5101	22,910	21,000	43,910	56,600
5200	20,440	26,920	47,360	56,520
5300	20,170	23,160	43,330	51,540
5400	14,950	13,960	28,910	36,920
5500	19,120	24,280	43,400	48,480
5700	19,850	10,110	29,960	36,750
5800	21,170	4,640	25,810	33,950
5900	23,090	23,110	46,200	62,880
10600	31,440	14,230	45,670	57,010
TOTALS	$333,850	$226,600	$560,450	$746,384

Statement of Objectives

The objectives of this study are as follows:

(1) To assess the threat of marine flood inundation to residential areas of Waldport, Oregon;

(2) To review mitigation measures considered or undertaken by the City of Waldport or other authorized agencies to avoid marine flood damages;

(3) To consider alternative mitigation measures and governmental agency services available to the City of Waldport; and

(4) To recommend a course of land use redevelopment for the threatened site in Waldport, Oregon.

Part I of this study includes a brief description of the background of the 1985-86 marine flooding and erosion threat to the city of Waldport, and Part II is a discussion of the various mitigation measures and land use procedures that have been recently investigated and considered. Part III consists of an exploration of some of the alternatives available to Waldport in response to the threat of marine flood inundation, and Part IV includes the conclusions drawn from this study, with recommendations for a course of land use redevelopment for the Maple Street area of Waldport.

Background of the Problem

The declining property values of the Maple Street site are largely attributable to the marine erosion of the Alsea Bay sandspit which protects the waterfront area of Waldport. Between August and November, 1985, over 1600 feet of the sandspit was eroded away, tripling the size of the inlet into the bay and exposing the city to direct ocean wave surges. Two residences have already been demolished and the land underlying 13 others on Maple Street is being rapidly eroded. In September 1985, the City of Waldport declared an emergency and in October both the Lincoln County Board of Commissioners and Oregon Governor Atiyeh confirmed that a State of Emergency Disaster existed. However, before any federal or state assistance could be obtained for Waldport, an objective analysis of the flood hazard was required.

In November of 1985, an Oregon State University Technical Advisory Team of geographers and oceanographers was formed to assess the erosion hazard at the Alsea Bay site and the threat it posed to life and property. This team has conducted monthly bathymetric surveys of the western half of Alsea Bay, as well as periodic shoreline elevation pro-

files. This data has been entered into a tidal inlet hydraulics and stability computer model, the results of which have been used to assess the expected tidal range at Waldport with the changing inlet cross sectional area and morphology in view. A map displaying the expected 100-year flood event occurrence within the city was constructed, with flood elevations corresponding to different recurrence intervals. The OSU Hazard Mitigation Team presented its findings in a final report in July of 1986 (Jackson, et al., 1986).

The erosion of the Alsea Bay sandspit, which may be easily observed when contrasting aerial photographs of the site (see Figure 1, Appendix), has been attributed to the *El Nino* phenomenon. Although they are not truly periodic, *El Ninos* do occur between 20 and 25 times per century (Quinn, quoted in Jackson et al., 1986) and the evidence is persuasive that this phenomenon may be related to cyclical coastal flood conditions. Photos dating to 1939, collected by the Alsea Bay Study Team, show a series of major spit erosion episodes, though none were as serious as the 1985-1986 event. A spit erosion episode in 1964 resulted in "nuisance" flooding along the Maple Street area and the most serious recent flooding attributed to spit erosion, and ultimately to *El Nino*, occurred in 1952, when only a small island of downtown remained above water level as flood waters inundated Waldport from both the Maple Street area and Lint Slough (Jackson et al., 1986).

In 1982-83, *El Nino* produced considerable erosion along the coast of Oregon. However, three years would pass before it achieved its maximum impact. In this instance the principal forces acting to erode the Alsea Bay sandspit included exceptionally high sea levels, storms which generated unusually intense wave conditions, and the northward transport of

sand along the Oregon coastline. This is in fact unusual on the Oregon coast since the coastline is comprised of a series of littoral cells which usually reflect a nil net littoral sand transport. The unusual movement of sand caused heavier than normal erosion to occur on the north sides of headlands, while the south sides acted to trap the sand (Jackson et al., 1986). The most recent surveys indicate that during the winter of 1987 the spit rebuilt itself to its original condition (O'Neil, 1987). However, it is important to note that the erosion was due to natural and recurrent factors which will undoubtedly recur in the future (Rosenfeld, 1986).

The U.S. Army Corps of Engineers also analyzed the Alsea Bay situation, verifying the OSU Mitigation Team's findings and proposing a structural mitigation plan to meet the threat of marine flooding. The Corps of Engineers' "Advanced Measures Plan" advocated construction of a 12-foot (above MSL) ring-dike around the City of Waldport. The ring-dike was to have stretched from the Highway 101 seawall on the south, around the city to the Port of Alsea. It was to be wide enough to accommodate service vehicles, with an angled face reaching to a footing with a minimum width of 44-feet extending into the bay (Shaefer, 1987). The "Great Wall" never made it past the initial design phase because the project was so extensive that it exceeded the limits of either the "PL 84-99 Advanced Measures Plan" or the "Section 14 Emergency Bank Program."

The initial cost estimate for the Corps plan was set at $4 to $8 million and it has now been slotted into the Corps of Engineers' "205 Program." This program has a five-to-seven year waiting period, requiring detailed environmental impact studies and cost benefit analyses. In addition, attempting such a project within a state designated conservation estuary would complicate construction of the Corps of Engineers' structure.

II. THE PROTECTION OF SHORELANDS AND COASTAL LAND USE MANAGEMENT

The Federal Government and the Protection of Shorelands

Barrier beach erosion is of concern to all levels of government, but local governments are the most immediately concerned agencies since the consequences of beach erosion affect the lives of their citizens, as well as public and private property. However, local government resources are usually inadequate for either thorough technical analysis of the problem or implementation of engineering mitigation measures. Furthermore, beach erosion is a problem that affects the entire littoral cell and often lengths of coastline which may transcend the limits of local agencies. In these cases, the control of beach erosion requires measures which can accommodate the entire affected area. Ultimately, individual and local attempts to control erosion by building structural barriers such as seawalls or jetties along the sections of beach within local jurisdictions may in the long run be ineffectual. Frequently, these attempts serve to accelerate damage to neighboring property, local beaches, or to other communities that depend on littoral sand drift for their beach nourishment (Heikoff, 1980). Komar (1983) has documented this effect along other Lincoln County beaches, in particular at the Salishan Development.

Consequently, counties and states as well as local government agencies are directly concerned with the problem of beach erosion. Although the superior jurisdictions have larger geographic areas of concern and

greater financial and technical resources, they are not in a legal or political position to assume full responsibility for dealing with beach erosion problems. The result has been that within the last 35 years the federal government has progressively been compelled to acknowledge that the coastal zone is a national resource and that it must also share in the responsibility for mitigation of coastal erosion problems (Heikoff, 1976).

The recent history of federal concern for the nation's coastal resources may be traced to 1930, when Congress authorized the Corps of Engineers, in cooperation with state and local governments, to carry out studies for shore protection measures. At that time, federal participation in the construction of shore protection structures was limited only to federally owned shorefronts. Amendments to the law in 1946 permitted federal government participation in construction projects on publicly owned state and local shore fronts. Further amendment in 1956 allowed federal participation in private property protection measures if they were incidental to the protection of public property or otherwise provided public benefits (Corps of Engineers, 1985). These public laws were reason enough for small communities with large problems, such as the one under discussion, to expect relief from federal agencies under certain circumstances.

Federal and State Coastal Land Use Management

The 1972 federal Coastal Zone Management Act (CZMA) made possible a unique federal, state, and local government partnership for improving the management and utilization of coastal lands and environments. At present, 28 states have voluntarily undertaken coastal land management programs with guidance and funding assistance from the National Oceanic and Atmospheric Administration (NOAA). Each of the participating states

has established required planning and regulatory guidelines for land use within a designated inland coastal boundary. Consequently, there is a great deal of program diversity from state-to-state; with federal support, some states have moved into broad land-use planning, while others have strengthened and consolidated what were once fragmented environmental management and planning programs (Heikoff, 1977).

The Oregon coastal zone (excluding the territorial sea) ranges in width from 8 to 45 miles, including approximately 7,800 square miles of land area. The official boundaries were first delineated by the Oregon legislature when it established the Oregon Coastal Conservation and Development Commission (OCCDC) in 1971. The OCCDC was an advisory body charged with preparing a comprehensive plan for coastal resource conservation and development. Two years later the Oregon Land Use Act (SB100) mandated a statewide planning system, under which the responsibilities of the OCCDC were absorbed by the Land Conservation and Development Commission (LCDC). Presently, Oregon's federally approved coastal management program, including territorial boundaries set forth in the original OCCDC legislation, is based entirely on authority vested in the LCDC (Brower & Carol, 1984). To date, 4 of the 19 LCDC program goals have been adopted for the management and use of coastal resources.

In its coastal management package, Oregon in 1977 included a number of state environmental programs as a complement to the four coastal goals so that NOAA would approve its program. Some of these environmental requirements include: a fill and removal permit program, an estuary protection program, beach access regulations, and water resources and pollution management. The primary tool for the coordination of decision making is the requirement that all state or local agency activities be con-

sistent with the land use priorities for coastal resources set out in the four LCDC coastal resource goals. In effect, the state has instituted a system of consistency requirements similar to those required in comparable CZMA regulations (Brower & Carol, 1984).

The local impact of this federal and state legislation has been that all local governing agencies have been required to prepare local land use plans which are in compliance with the principles of appropriate federal and state goals and regulations. Consequently, the Alsea Bay Estuary Management Plan, which serves as a set of objectives addressing LCDC Goal 16, has been included in the Waldport Comprehensive Plan. The purpose of Goal 16 is "to recognize and protect the unique environmental, economic, and social values of each estuary and associated wetlands" and "to protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries." However, the Alsea Bay Management Plan does not include new shore protection as a permitted use within the estuarine lands. Therefore, when the 1985-86 marine inundations became a threat to local property, the City of Waldport requested an exception to Goal 16 from the Department of Land Conservation and Development (DLCD). In March of 1986, the DLCD granted an exception to Goal-16 to alter both the Alsea Bay Management Plan and a Department of State Lands material fill permit, thus allowing for the emplacement of a flood mitigation structure (Jackson et al., 1986). But structural mitigation is only one strategy open to local governments faced by a natural hazard. "Non-structural" mitigation offers a second, less traditional, course of action.

Local Government and Coastal Land Use Management

Waldport, along with 21 other local governments within Lincoln, Linn, and Benton Counties, has joined in voluntary association with the Oregon District 4 Council of Governments (COG-4). This interagency council was formed in 1967 to carry out a wide variety of services for and on behalf of its member agencies. Oregon state law permits the organization of such councils to implement, at the request of members, any function local or county governments are empowered to do on their own. There are no mandated programs for local councils of government and the extent of their programs is generally dependent upon the availability of federal or state funds.

For COG-4, approximately 40 percent of its operating budget consists of private donations, local government, or state funds, with the remaining 60 percent from state "pass through" of federal funds. Community development programs require skilled staff support that towns of the size of Waldport can scarcely afford, but which a regional organization like a COG can offer under contract. Examples of such community development work include community land use planning and public facility improvements and a regional clearinghouse for grant reviews. The COG staff may review local applications for federal funds to assure that there are no conflicts with the plans or policies of other jurisdictions, as well as prepare and administer grant and loan programs for public facility improvements (Council of Governments, Dist. 4, 1987).

During the crisis of 1986 COG-4 helped the City of Waldport prepare numerous applications for assistance. Among the programs relating

to land use and redevelopment, a variety of applications were made for Oregon Community Development Block Grant (OCDBG) programs. Application for an Imminent Threat Program grant was denied insofar as serious flooding has not yet occurred along Maple Street that could be considered a life-threatening, imminent threat (Shaefer, 1987). The Lottery Fund Program for site specific infrastructure was denied as well, but this had been foreseen since lottery funds cannot be used for shore retainment or for land use redevelopments that "will likely provide service-oriented jobs" (Pankey, 1987). Waldport and COG-4 required a formal denial in order to apply for other grant and loan programs. The last OCDBG program applied for was the Normal Community Development Block Grant Program. In March of 1987 this was also denied. Waldport met the basic grant criteria, but it was not included in the 47 applicants (of a total of 91) who were determined to be in priority need of the limited funds (Pankey, 1987). A Community Development Planner at COG-4, who coordinated the Waldport grant applications, believes that if there was more local financial initiative from local citizens, chances for the award of a Community Development Block Grant would have been much greater. For example, a typical local donation of $10,000 to $15,000 is matched by the program with a $400,000 to $500,000 grant (Shaefer, 1987). Others in the Waldport city administration believe that the denial was based on the fact that a major life threatening flood had not occurred. Upon exhaustion of the possibilities of state funding, Waldport and COG-4 could only hope for federal relief measures.

The Federal Emergency Management Agency

Many people are unaware that losses due to flooding are not covered under the basic provisions of a homeowner's insurance policy. Furthermore, prior to 1968, property owners living in the nation's flood plains found it difficult to obtain special coverage and were virtually uninsurable against flood loss because of the high degree of risk involved. Following a disaster, many of these people found no alternative but to apply for low-interest recovery loans (a service, moreover, which is not available in every area at risk). The cost of this tax supported relief increased dramatically during the early 1960s when major storms swept across much of the country and in 1968 Congress addressed this long-standing land use and flood problem by passing the National Flood Insurance Act. This legislation provides flood insurance to property owners at reasonable costs, in exchange for the careful management of flood prone areas by the local jurisdictions (Federal Emergency Management Agency, 1985).

Responsibility for this insurance program was lodged with the Federal Insurance Administration, and later placed under the Federal Emergency Management Agency (FEMA). The Flood Disaster Act of 1973 further broadened the program by including protection against losses from flood-related erosion, at the same time requiring property owners to purchase flood insurance as a condition of the receipt of any form of direct or indirect federal financial assistance. This provision also included insurance for construction mortgage loans in an identified flood or flood-related erosion hazard area. Without this form of insurance the rights of

property owners in hazard areas to federal disaster assistance or rehabilitation loans were seriously restricted (Heikoff, 1980).

FEMA finances flood insurance studies to provide communities with information about flood hazard areas, as well as Flood Insurance Rate Maps (FIRM's) delineating special hazard areas and risk premium zones. In FEMA's terminology a "base flood" is one which has a one percent chance of being equaled or exceeded in any given year; it is also frequently referred to as the 100-year flood. The FIRMs also designate "coastal high hazard areas," which are subject to high velocity waters. However, before any flood insurance is made available to local property owners, their communities must participate in the national program by enacting flood hazard area zoning, subdivision controls, and building regulations that meet federal criteria. The initial Waldport Flood Insurance Rate Map identification was made in 1974 and in 1979 the city moved into the regular program. The FIRM designated the Maple Street area as lying in an "AO" zone, which is defined as "areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown (1 ft. around Maple St.), but no flood hazard factors are determined" (U.S. Department of Housing and Urban Development, 1979).

Flood hazard zoning is a potential discouragement to the construction of high density developments in the hazard areas. Zoning may be approached in one of two ways: local government permit evaluation on a case-by-case basis or local government designation of separate risk zones, each with its own regulatory standards which are dependent upon the degree of risk. Flood zone building and subdivision regulations include specific requirements, such as the anchoring of structures, the use of water-

proof building materials, and minimum floor height requirements above a specified flood level. Other requirements relate directly to community health, such as the protection of sewerage plants and public water supplies from the penetration of flood waters (Westling, 1977).

In addition to flood insurance, FEMA also provides:

-Purchase of certain severely damaged insured properties;

-Flood plain management technical assistance;

-Financial assistance to states for flood plain management; and

-Flood hazard identification and mapping (Federal Emergency Management Agency, 1985).

The purchase of damaged insured properties only occurs *after* a disaster. For the FEMA to buy-out the properties within the study site, owners would first need to be fully insured at replacement cost value. FEMA representatives have suggested that property owners acquire written estimates for the replacement value of a flood proof structure of the same size, on the same lot and equivalent to the present physical condition of the structure (for maximum reimbursement). When these conditions are met, structures and contents would still have to suffer damages of more than 50 percent of the value before a buy-out could occur. Even though flooding of the Maple Street area has been labeled an "imminent threat," it has not been considered "life-threatening" by the FEMA. Therefore, a buy-out of the study site will not take place until serious flooding causes damage (Freitag, 1987).

A representative of FEMA who has worked on the Waldport flooding problem, states that it was unfortunate that the town put all of its efforts into the seawall barrier, because this prevented the serious exploration of other alternatives. Local enthusiasm for the seawall project was

very high and then when the Corps of Engineers backed out, people became very upset. All that was done was to place additional rip-rap along the the seafront side of the Maple Street properties, which only increased the potential for serious damage because of the likelihood that a serious flood and storm would toss the boulders about. The FEMA representative felt that residents might have been better off if they had not placed the limited rip-rap protection and had let the 1987 winter storm flood their insured properties, enabling a federal buy-out (Freitag, 1987). However, there would have been no guarantee that structures would have been sufficiently damaged to qualify for a FEMA buy-out.

III. COASTAL LAND USE MITIGATION AND SHORELINE PROTECTION OPTIONS

Farmers Home Administration Programs

Community Facilities Loans

The Rural Development Act of 1972 extended the U.S.D.A. Farmers Home Administration (FmHA) lending authority to provide loans for essential community facilities. States, counties, districts, municipalities, and other political subdivisions of a state may apply. Non-profit organizations, such as cooperatives, associations, and private corporations are also eligible (U.S. Department of Agriculture, 1986).

The FmHA may consider projects located in rural areas with populations of 20,000 or less. The jurisdiction must first: a) have or obtain the legal authority necessary to construct, operate, and maintain the proposed facility or service; b) have the ability to provide security for and repayment of the loan (usually in the form of voter approved bond issues); and c) be unable to finance the proposed project from its own resources or through commercial credit at reasonable rates and terms. In addition, all facilities financed with these funds must be for public use. Financing may be used for such essential community facilities as fire and rescue services; transportation; community social, cultural, and health services; industrial park sites; access ways and utility extensions; or other community facilities that may be qualified as both "essential and public in nature." Loan periods are for variable lengths, up to a maximum of 40

years for permanent structures (U.S. Department of Agriculture, 1985, p. 7).

According to an FmHA spokesman, public recreational facilities no longer qualify for loans since they can't be considered an "essential community facility." However, if Waldport submitted a proposal that would qualify as a cost effective, flood proof, and essential public facility, it would then be required to post security for the project loan in the form of a general obligation bond approved by a public vote which pledged taxes, assessments, or other revenues. If Waldport could fulfill these prerequisites, it might qualify for an FmHA community facilities loan (Durrell, 1987).

Watershed Protection Loans

Watershed protection loans are also available through the FmHA for financing the local share of improvement costs of watershed projects which qualify under the Flood Protection Act of 1944. Advances are available through the Soil Conservation Service (SCS) after FmHA approves the repayment arrangements. The SCS must approve the plans for the watershed area prior to formal application to the FmHA. Eligibility requirements for government bodies, conservation and flood prevention agencies, or similar organizationsare are similar to those for FmHA Community Facilities Loans. Watershed protection loans may be used for structures or land treatment measures that are primarily (but not wholly) intended for flood prevention and for which the tax measures or other local revenues used to repay the loan will be justified by appropriate community benefits. Loans may also be used for recreational developments adjacent to shorelines, including the minimum basic facilities required for public

health and safety, access, and use (U.S. Department of Agriculture, 1984; U.S. Department of Agriculture, 1978).

Resource Conservation and Development Loans

Resource conservation and development loans are a third potential funding resource offered by the Farmers Home Administration, and were initiated under the authority of the Food and Agriculture Act of 1962 to help local citizens meet their share of various resource project costs. The borrowing jurisdiction must be designated by the Secretary of Agriculture as a "resource conservation and development area" and the eligibility requirements are similar to the other two FmHA loan programs. Loan funds may be used for: water facilities, including the construction of flood prevention and erosion control works; water resource improvements, such as water level control structures and acquisition of the lands and easements necessary for their construction; public water-based recreational developments which are used by qualifying agencies to finance costs of projects receiving Soil Conservation Service resource conservation and development technical or financial assistance; and changes of land use, such as conversion to parks, greenbelts, or other open spaces that will serve rural communities (U.S. Department of Agriculture, 1972).

Under the Reagan Administration, funding for all of the above FmHA loan programs have all been drastically reduced. The essential community facilities program is the most frequently used source of funds, with the largest budget among the FmHA programs (U.S. Department of Agriculture, 1986). However, the meaning of what is "essential" has been restrictively redefined and the most feasible land use mitigation approaches to Waldport's Maple Street are problems that would not qualify (Durrell,

1987). The remaining two programs would seem to be appropriate approaches to land use mitigation for Waldport, but to date neither has been approached. Financing by these means would necessitate public approval and issuance of general obligation bonds, which would either be publicly sold or which the FmHA could choose to purchase directly (at 6 to 7 percent interest).

National Park Service Recreational Facility Grants

Another conceptually appealing option would be to turn the Maple Street area into an open space recreation area, but it may not be financially feasible to engage in such an undertaking. Grants for planning, acquiring, and developing outdoor recreation areas and facilities for the general public are provided by the National Park Service, Department of the Interior. Only a state agency, such as the Oregon Department of State Lands, which has been directed to prepare and maintain the statewide comprehensive outdoor recreation plan, may receive planning grants. For acquisition and development grants, the state agency may apply for assistance for its own program or on behalf of other state agencies or political subdivisions.

Acquisition and development resource grants may be used for a wide range of outdoor recreation projects, including campgrounds, picnic areas, boat launching ramps, city parks, tennis courts, bike trails, outdoor swimming pools, or other support facilities such as roads and water supplies. Special conditions require the local agency to be able to operate and maintain the facility after completion of the project, and no grant funds may be used for these purposes. Furthermore, no more than 50 percent of the project costs may be federally financed, but under certain circum-

stances all or part of the matching share may be from federal assistance programs (U.S. Department of Agriculture, 1985). Considering the number of other parks and beach access lands currently operated by the Department of State Lands along the Oregon coast, and the distances between them, the Maple Street area of Waldport could be an opportune addition if dedicated to public recreational use.

Local Improvement Districts

If the voters of Waldport refuse to sanction an FmHA flood mitigation measure or a recreational redevelopment project along Maple Street, the neighborhood could form a Local Improvement District (LID). Any group of local property owners, in either residential or commercial property areas, may form an LID in the interest of improving their neighborhood appearance, protection, or services, or a combination of all three. Oregon statutes provide that any group of property owners may initiate an LID, so long as the undertaking is approved by the majority of benefiting property owners. "Approved," in this sense, means agreement to underwrite the costs. After an LID is formed, an assessment is made, and an improvement project is undertaken, property owners must repay their share of the loan by making yearly payments not to exceed 1 percent of annual income for a period up to 10 years. Upon formation of an LID the city engineer assumes responsibility for preparing plans, specifications, and the supervision of construction (American Public Works Association., 1986). Though this program could not generate adequate funds for a redevelopment project along Maple Street, it could be used to finance additional shoreline protection measures for existing land uses (Durrell, 1987).

Oregon Tax Increment Financing and the Renewal Program

The phenomenon of the abandonment of urban centers has been with us for several decades. Cheap land, cheap transportation, and cheap fuel have enabled suburban sprawl, while many city neighborhoods have deteriorated. One result has been the increase of absentee ownership, which has only added to downtown blight. In response to this problem a variety of rehabilitation efforts have been undertaken since the damaging effects of the phenomenon were first given extensive public notice. At present it may be said that one owner's incentive to rehabilitate property is another's opportunity to facilitate tax write-offs. However, piecemeal solutions by private investors in the 1950s and 1960s could not cope with the extent of social and economic problems of large-scale redevelopment. The abandonment of the downtown for the suburbs or the countryside is not just a problem for metropolitan areas, it has also affected many smaller rural communities as well (Oregon Department of Revenue, 1981). Urban renewal projects, such as the one undertaken by Anaconda, Montana, have been very successful in the rehabilitation of rural communities.

In 1974, after 25 years of experience, the Federal Urban Renewal Program was phased out and replaced by the Federal Block Grant Program. However, the grant program has generally been used for physical improvements and only rarely for some degree of "renewal." In 1951 the Oregon Legislature then granted local municipalities the right to activate an urban renewal program through approval of ORS Chapter 457. This law, which includes the power of eminent domain, provides for tax increment financing without voter approval (Oregon Department of Revenue, 1981).

An Urban Renewal Agency may be formed and tax increment bonds issued to obtain funds for public development costs (e.g., land acquisition and clearing) before private development may begin. Security for the bonds is based on the expected increase in local market values that property renewal will bring. The increase in values beyond an initial true cash value base produces the necessary tax increments. The bonds are issued under the authority of a newly formed urban renewal agency and are subsequently reviewed by a licensed bond consultant of established reputation. Since the renewal agency is responsible for repayment of the tax increment bonds, the affected municipality benefits but is not obligated (Oregon Department of Revenue, 1981).

As of 1980, an urban renewal agency must be activated by ordinance rather than by resolution. An ordinance allows for greater public participation than a resolution since it cannot be introduced and adopted at the same meeting. The local governing body may elect one of the following steps to define the urban renewal agency:

1) declare the local Housing Authority to have the power of an urban renewal agency;
2) appoint a board of three or more members to exercise urban renewal agency powers; or
3) declare that the City Council may itself exercise such powers (Oregon Department of Revenue, 1981).

The selected agency cannot initiate a project, however, until the local governing body approves the renewal project (ORS 457.170, 457.180). The renewal agency is then free to acquire, clear, and sell property, as well as assist in relocating people and businesses in the implementation of

the project. Under the authority of ORS 457.085, the urban renewal agency outlines the renewal plan and is responsible for:

a) identifying the affected area (a maximum of 25 percent of the city area),

b) identifying the land to be acquired,

c) identifying future land uses of the area,

d) identifying all public improvements,

e) identifying methods of relocating affected families, and

f) identifying funding: either wholly, partially, or not through any tax increment financing process.

After the urban renewal agency approves the renewal plan, it is sent to the local planning commission for review. The commission determines whether the renewal plan conforms with the municipal comprehensive plan and an economic development plan. The commission also determines if the proposed renewal can in fact be repaid with the projected tax increments. After planning commission review, public hearings are administered by the city council. If the plan is approved, the county assessor then determines the "frozen true cash value" of the renewal area. Even if several projects not funded by tax increment bonds are scheduled for the area in question, the entire renewal area true cash value is still frozen. It is the responsibility of the renewal agency to pay the debts incurred in financing the renewal plan through a special tax increment fund (ORS 457.440[4]). When all of the indebtedness supported by tax increments has been retired (usually within 10 years), the renewal agency is terminated through city council ordinance (ORS 457.075).

IV. CONCLUSIONS

Land use mitigation for flood hazards is indeed a complex and time consuming undertaking. This study found that while legal means to facilitate land use mitigation were available, the means of gaining public finances were not. Despite the OSU Hazard Team's documentation of an existing imminent threat, federal and state agencies have failed to plan for the mitigation of such an event. It appears that it will take an actual flood, creating substantial damages or life-threatening conditions before federal or state aid is extended to Waldport. A mere "imminent threat" has proven not to be sufficient cause for Waldport to acquire the needed assistance to facilitate land use mitigation. Any use of the area will require some shore protection, but a land use change with habitable buildings will require shore protection on the scale of the Army Corps of Engineers proposal.

It could take many years for the Corps of Engineers to build a shore protection structure, and it will take serious flooding before FEMA can initiate a buy-out of the Maple Street properties to allow for a more appropriate use of the land. Next year the City of Waldport and the COG-4 will reapply for block grants and they may ask the voters to approve a general obligation bond to redevelop Maple Street through the various FmHA loan programs. However, it seems evident that the citizens of Waldport are going to have to initiate their own redevelopment through a renewal agency program. Hopefully, state and federal grants will add to this momentum, but they should not be a necessity.

The logical design solution for the Maple Street area would be a park-like green space that could tolerate periodic marine flooding without serious property damages, as well as provide an appropriate amenity for Waldport. The site is highly visible to travellers coming from the north over the Alsea Bay Bridge. Arriving from the south the site is equally visible, with the existing Keady Wayside (Waldport Park) and easy vehicular and recreational vehicle access. The City of Waldport already has a serious summer season parking problem, and it is placed in a long gap between nearby scenic recreational vehicle and tourist waysides. A renewal program would probably have to acquire more than just the 3.9 ac. study site in order to gain the scale necessary to provide an adequate flood zone buffer area.

It is recommended that a study be initiated to investigate the feasibility of the formation of an urban renewal district for the Maple Street study site to the west side of Highway 101 and from the Keady Wayside to the Alsea Bay Bridge. This region basically encompasses the worst of the flood hazard area, provides the necessary redevelopment scale, and thus would allow for appropriate redevelopment mitigation of the study site.

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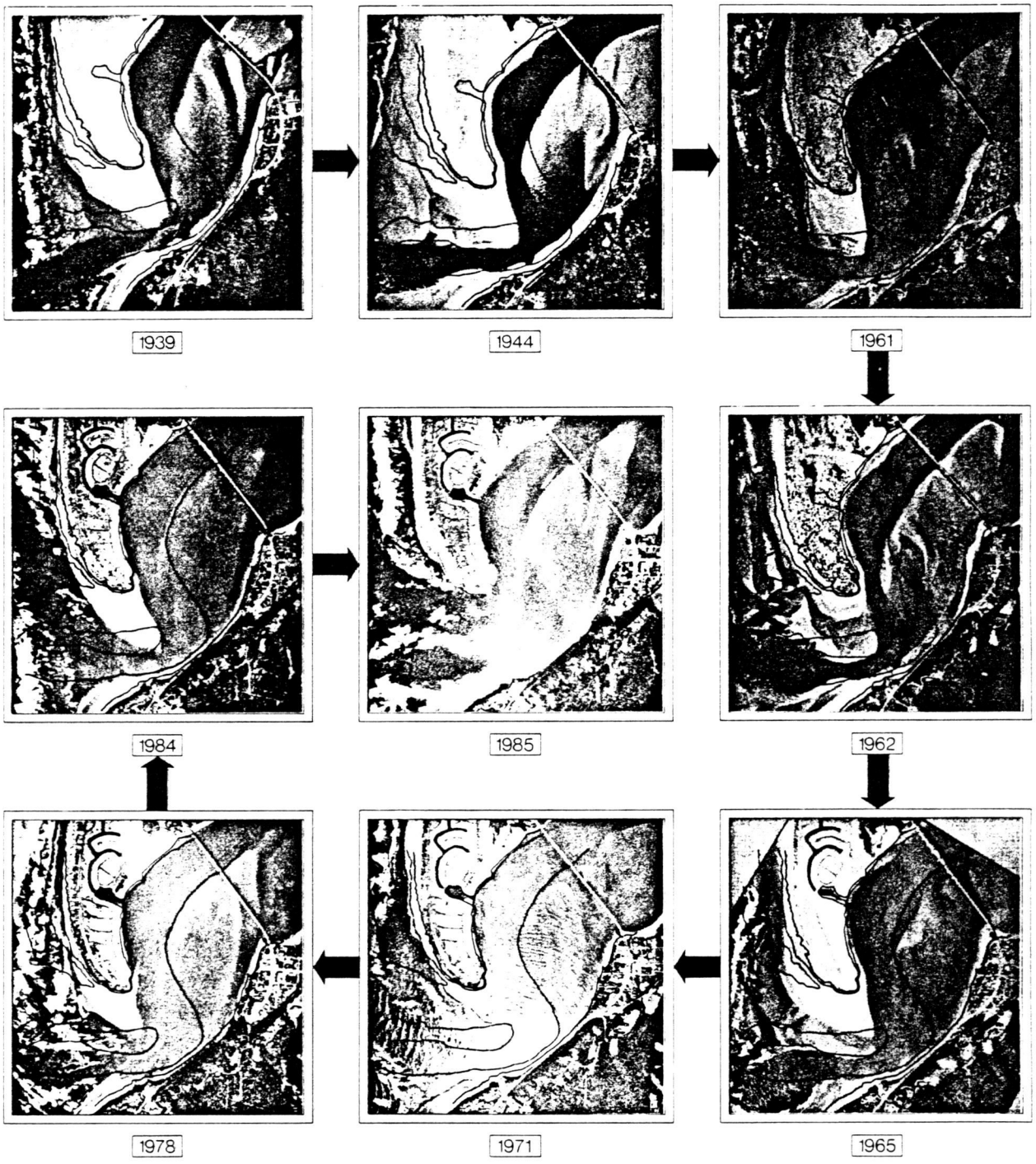
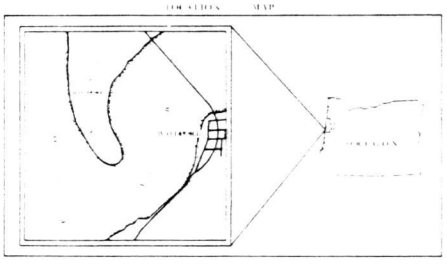
APPENDIX

Figure 1. Alsea Bay Spit Morphology, 1939-1985
(Source: Jackson et al., 1986).

CHANGES IN THE ALSEA SPIT, WALDPORT, OREGON
1939 - 1985





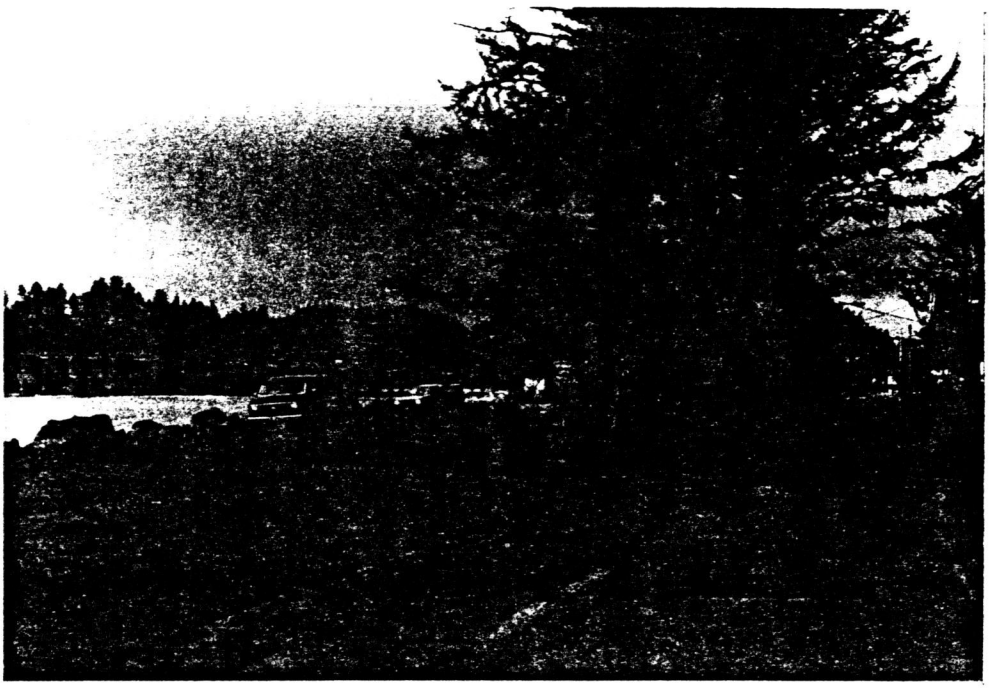


Photo 1: Entering Maple Street from the south - Keady Wayside (Waldport Park) on left.

Photo 2: Waterfront Area (at low tide) viewing toward South with Hwy. 101 rising in the distance.

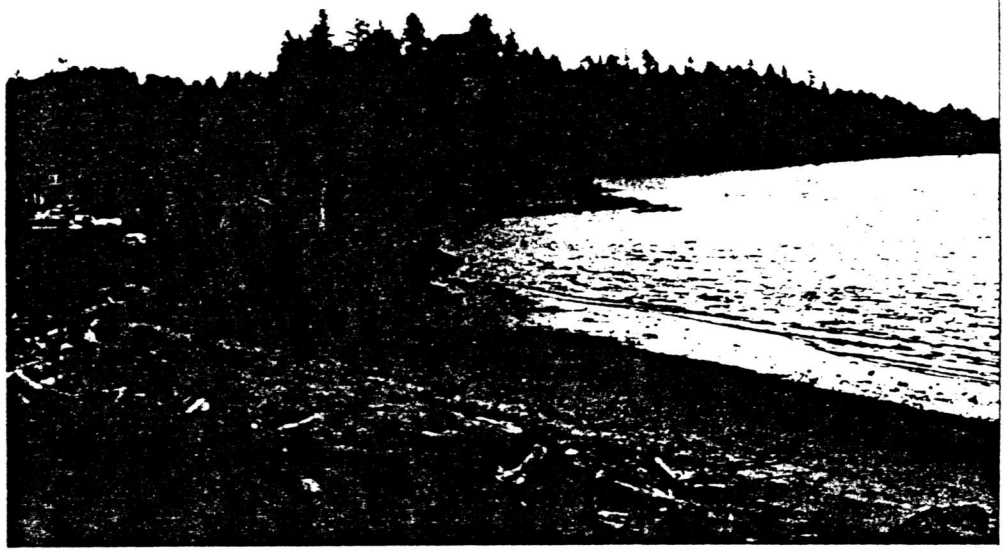
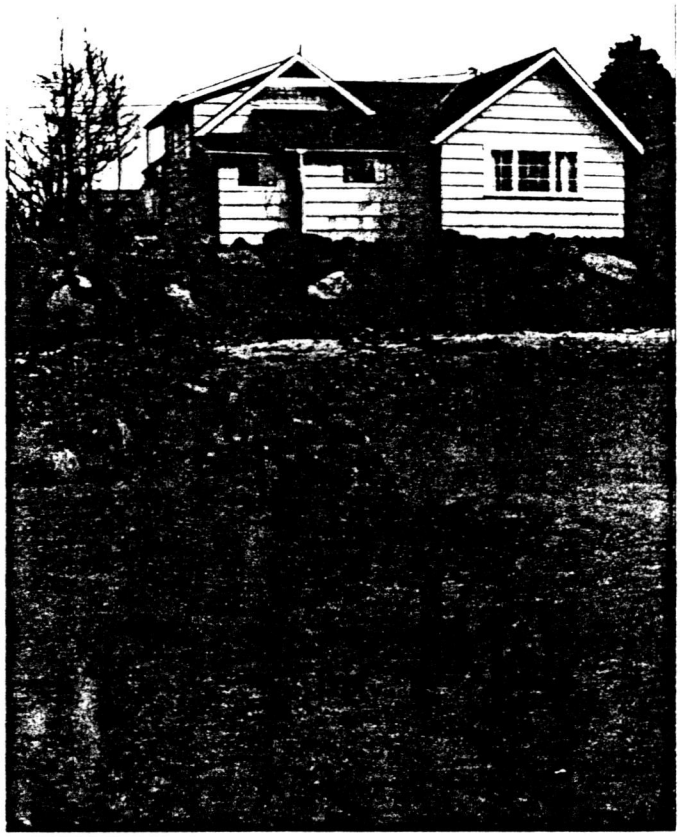


Photo 3: View along Maple Street From Alsea Bay Bridge) illustrating the undermining of the study site, where two homes formerly existed.

Photo 4: Example of debris and rock threat to residential structures.



Photos 5-6: Example of "fill area" of study site. Note exposed iron debris, pier supports and log ties.

Photo 7: Example of eroded property and damaged structure.

Photo 8: Example of rip-rap placed during the 1986-87 winter storm season by homeowners and the city of Waldport to protect properties along the Maple Street study site.

Photo 9: Typical Maple Street water front residence.

Photo 10: Typical Maple Street water front residence.